CLEAN VERSION OF ALL PENDING CLAIMS

All pending claims are listed in this section for purposes of clarity, with claims that have been amended identified as such. Claim 2 has been amended herein – the marked up version of this claim is found at page 9 of this Reply.

1. (Amended) In combination, a dynamoelectric machine and a machine diagnostic system for on-line diagnosis of the machine;

the machine diagnostic system comprising a machine diagnostic module which collects data relating to operation of the machine and a package which is mounted to an outer mounting surface of the machine; and

the package comprising a container which contains the machine diagnostic module and a heat dissipation device, positioned between the container and the outer mounting surface of the machine, which dissipates heat generated by the machine into surrounding air thereby minimizing heat transfer to the container.

2. (Amended) The combination set forth in claim1, wherein the heat dissipation device includes a first set of fins which transfer the heat by convection into the surrounding air.

3. The combination set forth in claim 2, wherein each of the fins in the first set of fins has a base which engages the outer mounting surface of the machine and a tip which engages the container whereby heat is conducted through the base towards the tip and is transferred by convection into the surrounding air.

4. The combination set forth in claim 3, wherein the heat dissipation device includes a front edge and a rear edge and wherein the first set of fins include at least some fins which extend between the front edge and the rear edge.

5. The combination set forth in claim 4, wherein at least some of the fins in the first set of fins extend only partially between the front edge and the rear edge.

6. The combination set forth in claim 4 wherein at least some of the fins in the first set of fins extend in a generally straight path.

7. The combination set forth in claim 4, wherein at least one of the fins in the first set of fins extends in a curved path.

8. The combination set forth in claim 4, wherein at least some of the fins in the first set of fins are of different widths.

9. The combination set forth in claim 2, wherein the first set of fins are attached to the container.

10. The combination set forth in claim 9, wherein the fins are integral with the container.

11. The combination set forth in claim 10, wherein the fins are formed in one piece with the container.

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12. (Amended) The combination set forth in claim 11, wherein the container and the heat dissipation device are made of at least one of: cast iron, dicast aluminum, extruded aluminum, machined aluminum, and thermally conductive plastic.

13. The combination set forth in claim 2, wherein said container is formed by a series of walls and the fins project outwardly from one of the walls.

14. The combination set forth in claim 13, wherein the fins in the first set of fins project perpendicularly from the one of the series of walls.

15. The combination set forth in claim 14, wherein the series of walls include a bottom wall and set of side walls extending upwardly from the side walls to form a box-like structure and wherein the first set of fins extend perpendicularly downward from the bottom wall.

16. The combination set forth in claim 15, wherein the machine mounting surface is flat and wherein the tip-to-base dimension of each of the fins in the first set of fins is substantially the same.

17. The combination set forth in claim 15, wherein the machine mounting surface is curved and wherein the tip-to-base dimension of the first set of fins varies to form a contour corresponding to the curved machine mounting surface.

18. The combination set forth in claim 2, wherein the machine is an electric motor including a rotor.

19. The combination set forth in claim 2, wherein the machine comprises a fan generating an exhaust airflow and wherein the exhaust airflow is directed towards the first set of fins so that the exhaust air may travel between at least some of the fins thereby continuously conveying the surrounding air away from the container.

20. The combination set forth in claim 19, wherein the package further comprises a second set of fins having their bases attached to the container and their tips positioned in the passageway through which the airflow passes.

21. The combination set forth in claim 19, wherein the machine further comprises a shroud which directs the airflow towards the heat dissipation device.

22. The combination set forth in claim 21, wherein the first set of fins define a plurality of regions and wherein the shroud includes a baffle which divides the airflow into a plurality of component airflow and which directs the component airflow towards the respective regions defined by the first set of fins.

23. (Amended) A package for a diagnostic module of a dynamoelectric machine comprising:

a container to contain the diagnostic module; and a heat dissipation device which includes a first set of fins, at least one of the fins having a base which engages an outer mounting surface of the machine and a tip which engages the container whereby heat is conducted through the base towards the tip and is transferred by convection into the surrounding air.

24. A method for regulating temperature of a diagnostic module of a dynamoelectric machine, comprising the steps of:

containing the diagnostic module within a container; and

employing a plurality of fins to facilitate dissipating heat generated by the machine into surrounding air to minimize heat transfer to the diagnostic module, wherein at least one of the fins has a base which engages the outer mounting surface of the machine and a tip which engages the container whereby heat is conducted through the base towards the tip and is transferred by convection into the surrounding air.

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25. The combination set forth in claim 1 further comprising:

a network backbone connected to the machine diagnostic module; and

a host computer connected to the network backbone able to receive diagnostic data provided from the machine diagnostic module and to allow on-line diagnosis of the machine.